CLAIMS

1. A light-emitting thyristor matrix array formed on a chip comprising :

N (N is an integer $\geqq$ 2) three-terminal light-emitting thyristors arrayed in one line in parallel with the long side of the chip ; and

a plurality of bonding pads arrayed in one line in parallel with the long side of the chip.

2. The light-emitting thyristor matrix array of claim 1, further comprising :

a common terminal to which cathodes or anodes of the N light-emitting thyristors are connected ; and

M (M is an integer$\geqq$2) gate-selecting lines ;

wherein the gate of kth light-emitting thyristor is connected to ith [i={(k-1) MOD M} +1] gate-selecting line G_i,

the anode or cathode which is not connected to the common terminal of the kth light-emitting thyristor is connected to jth [j={(k-i)/M } +1] anode terminal A_j or cathode terminal K_j.

3. The light-emitting thyristor matrix array of claim 2, wherein the number M of the gate-selecting lines satisfies the relationship of L/{(N/M)+M}>p (L is a length of the long side of the chip and p is a critical value of the array pitch of the bonding pads).

4. The light-emitting thyristor matrix array of claim 3, wherein the critical value p of the array pitch of the bonding pads is about 75μm.

5. The light-emitting thyristor matrix array of claim 3, wherein when a prime factor for N is 2 only, the number M of the gate-selecting lines is the smallest integer, next smaller integer, or third smaller integer.

6. The light-emitting thyristor matrix array of claim 3, wherein when prime factors for N are 2 and 3 only, the number M of the gate-selecting lines is the smallest integer, next smaller integer, third smaller integer, fourth smaller integer, or fifth smaller integer.

7. The light-emitting thyristor matrix array of claim 1, further comprising :

a common terminal to which cathodes or anodes of the N light-emitting thyristors are connected ; and

M (M is an integer$\geqq$2) anode-selecting lines or cathode-selecting lines ;

wherein the anode or cathode of kth light-emitting thyristor is connected to ith [i={(k-1) MOD M} +1] anode-selecting line A_i or cathode-selecting line K_i,

the gate of the kth light-emitting thyristor is connected to jth [j={(k-i)/M} +1] gate terminal G_j.

8. The light-emitting thyristor matrix array of claim 7, wherein the number M of the anode-selecting lines or cathode-selecting lines satisfies the relationship of L/{(N/M)+M}>p (L is a length of the long side of the chip and p is a critical value of the array pitch of the bonding pads).

9. The light-emitting thyristor matrix array of claim 8,

wherein the critical value p of the array pitch of the bonding pads is about 75μm.

10. The light-emitting thyristor matrix array of claim 8, wherein when a prime factor for N is 2 only, the number M of the anode-selecting lines or cathode-selecting lines is the smallest integer, next smaller integer, or third smaller integer.

11. The light-emitting thyristor matrix array of claim 8, wherein when prime factors for N are 2 and 3 only, the number M of the anode-selecting lines or cathode-selecting lines is the smallest integer, next smaller integer, third smaller integer, fourth smaller integer, or fifth smaller integer.

12. A driver circuit for driving the light-emitting thyristor matrix array according to any one of claims 2-6, comprising :

a circuit for driving the gate-selecting lines ; and

a circuit for driving the anode terminals or cathodes terminal ;

wherein the circuit for driving the gate-selecting lines including even number of gate-selecting signal output terminals and a circuit for outputting a "selecting" signal to one of the gate-selecting signal output terminals and "no-selecting" signal to the others of the gate-selecting signal output terminal, with the terminal to which the "selecting" signal is supplied being switched in turn.

13. The driver circuit of claim 12, wherein a serial input/parallel output shift register is used for the circuit

for driving the gate-selecting lines.

14. The driver circuit of claim 13, wherein the number of the gate-selecting signal output signal terminals is any one of 4, 6, 8, 12 and 16.